

NOTICE OF AVAILABILITY
Buckskin/Shivwits Fuels Reduction and Ecological Restoration

Dear Interested Party:

Please be advised that an Environmental Assessment (EA) was prepared (EA-AZ-110-2005-0027) for the proposed Buckskin/Shivwits Fuels Reduction and Ecological Restoration. This EA is a public document, and it is available for your review and comment.

The proposed action analyzed in the EA would include portions of T. 39, 40N., Rs. 1, 2, 3W., & T. 41,42 N., Rs 1, 2, 3, 4E., T35,36,38,39,40,41N., Rs 9,10,11,12,13W The intent of this EA is to analyze site specific environmental effects incidental to the use of chemical methods to reduce Wyoming big sagebrush composition on public rangelands. Further, this EA is tiered to the Vegetation Treatment on BLM Lands in Thirteen Western States Final EIS (FEIS) of May 1991, which assessed how vegetation treatment—including chemical methods—affects elements of the human environment.

The no action alternative would be to continue managing the vegetation as it currently exists. Sagebrush dominated plant communities tend to be very stable and persistent. It has been concluded that high density big sagebrush stands can endure for very long periods of time. So no action would keep these stable states in high sagebrush plant composition without change to more favorable plant composition for long periods of time.

The proposed action would be in conformance with the Arizona Strip Resource Management Plan (1992) and includes mitigation measures to protect visual, water, and wildlife resources.

Copies of the EA are available upon request from, and written comments may be submitted to, *Ben Ott, 345 E. Riverside Drive, St. George Utah 84790, (435) 688-3329*. This EA has also been posted on the Arizona Strip Field Office's web home page <http://www.az.blm.gov/asfo/>. The deadline for receipt of comments is May 16th. Public comments are welcome and encouraged.

By law, the names and addresses of those commenting are available for public review during regular business hours. However, individual commentors may request that their name and/or address be withheld from the record. These requests will be honored to the extent allowable by law. If you wish your name and/or address withheld, you must state this prominently at the beginning of your comment letter. All comments from organizations or businesses will be available for public inspection in their entirety.

Sincerely,

Robert W. Sandberg
Acting Field Manager

**Buckskin/Shivwits Fuels Reduction and Ecological Restoration
EA-AZ-110-2005-0027**

**Arizona Strip Field Office
U.S. Bureau of Land Management
345 E. Riverside Drive
St. George UT 84790**

I. INTRODUCTION

The intent of this environment assessment (EA) is to analyze site specific environmental effects incidental to the use of chemical methods to reduce Wyoming big sagebrush composition on public rangelands. Further, this EA is tiered to the Vegetation Treatment on BLM Lands in Thirteen Western States Final EIS (FEIS) of May 1991, which assessed how vegetation treatment—including chemical methods--affects elements of the human environment.

Purpose and Need for the Proposed Action. Under the Public Rangelands Improvement Act of 1978 [43 USC sec. 1901 (b) (2)] Congress established and reaffirmed a national policy and commitment to:
 . . . improve the condition of the public rangelands so they become as productive as
 feasible for all rangeland values in accordance with management objectives and the land use
 planning process . . .

Sagebrush out-competes and excludes other plant species. Baxter's finding that sagebrush crown cover exceeding 10 percent caused decreases in herbaceous vegetation tends to bear this out.^a Sagebrush-dominated plant communities tend to be very stable and persistent. West et al., Robertson, Sanders and Voth, and Anderson and Holte concluded that high density big sagebrush stands can endure for very long periods of time (in these studies livestock grazing was excluded as an influence).^b This suggests that intervention is necessary to control sagebrush.

Baxter's findings also showed that sagebrush could effectively be thinned rather than eliminated which realizes the benefits and dependence of plant and animal species to the sagebrush ecosystem. The increased biodiversity generated from sagebrush thinning developed higher insect populations which in turn benefited species of birds rearing chicks. Baxter also suggested that the skeletons of dead sagebrush provide perches for song birds and tend to trap blowing snow which provides higher levels of soil moisture.

The goals of the project are:

Restore ecosystem function and condition

^aGarth Baxter, Pesticide Specialist, Intermountain Region, Forest Service, "Management of the Sagebrush Grass Ecosystem," 29 October 1993.

^bN.E. West, F.D. Provenza, P.S. Johnson, and M.K. Owens, "Vegetation change after 13 years of livestock grazing exclusion on sagebrush semidesert in central Utah," Journal of Range Management 37 (May 1984):262-264; J.H. Robertson, "Changes on a grass-shrub range in Nevada ungrazed for 30 years," Journal of Range Management 24 (September 1971):397-400; K.D. Sanders and A.A. Voth, "Ecological changes of grazed and ungrazed plant communities," (Managing Intermountain rangelands—improvement of range and wildlife habitats, USDA, Forest Service General Technical Report INT-157, 1983):176-179; J.E. Anderson and K.E. Holte, "Vegetation development over 25 years without grazing on sagebrush dominated rangeland in southeastern Idaho," Journal of Range Management 34 (January 1981):25-29.

Remove/reduce hazardous fuels (fuels pose a hazard when they become too dense and reach fire conditions such as hot day and nighttime temperatures, low humidity and high winds. These conditions could ignite a catastrophic fire event in dense tree and sagebrush dominated sites.)

Protect nearby private lands and structures from wildfire (Wildland/Urban Interface)

Minimize impacts on cultural resources

Minimize impacts on wildlife and special status species (plants and animals)

Minimize surface disturbance

Specific objectives are:

Reduce fuel loading of brush and trees by 50-80% within one year post-treatment

Increase native perennial grass cover by 60-75% within two years post-treatment

Increase native perennial forbs by 1-10% within two years post-treatment

The attached maps show areas of public rangeland in diminished ecological condition due to the high composition of sagebrush and low composition of desirable grasses, forbs, and shrubs (based on field studies of the area and data compiled from the USDA Natural Resources Conservation Service Ecological Site Guides). Through chemical methods, the Bureau of Land Management proposes to improve the ecological condition of these public rangelands._

Issues. Treatments would be designed to avoid areas with cliffrose.

Conformance With Land Use Plan. The proposed action or alternatives addressed below are consistent with the Arizona Strip District Resource Management Plan (RMP) dated January 31, 1992, as amended April 1997, and are consistent with Federal, State and local laws, regulations, and plans to the maximum extent possible. Rangeland management was considered in the Vermillion Grazing EIS of 1979, which was subsequently adopted as management direction in the Arizona Strip District RMP of 1992 (I-1). The Vermillion Grazing EIS states: land treatment is proposed to improve range conditions (1-18).

RMP decisions applicable to this proposed action include:

GZ01 Manage rangelands in accordance with multiple-use objectives, requirements and provisions of established laws, regulations and BLM policies, and the Vermillion Grazing Environmental Impact Statement and Allotment Management Plans, which specify grazing systems, management facilities and land treatments.

GZ21 Vegetative treatment projects will be implemented where plant cover or soil productivity is being lost, to achieve a desired plant community, to improve habitat condition for wildlife or to meet activity plan objectives. Practices used to accomplish this include mechanical treatments, herbicide applications, biological treatments, prescribed fire, reseeding and construction of water control structures as described in the Vermillion Grazing Environmental Impact Statement (1979) and the Programmatic Vegetation Treatment on BLM-Administered Land Environmental Impact Statement (1991).

TE02 Prior to potentially disturbing activities or surface disturbing activities on public land, a special status species review will be conducted by a qualified specialist.

WS01 Manage vegetation cover toward ecological stability and sound long-term protective soil cover using mechanical, chemical, biological or fire methods as tools for accomplishment.

WL03 Improve wildlife habitat through construction and maintenance of habitat improvement projects.

This proposal is in conformance with Arizona's Standards for Rangeland Health and Guidelines for Grazing Administration, which was developed through a collaborative process involving the Arizona

Resource Advisory Council and the Bureau of Land Management State Standards and Guides Team. The Secretary of the Interior approved the Standards and Guides in April 1997. The Decision Record, signed by the BLM State Director (April 1997) provided for full implementation of the Standards and Guides in all Arizona Land Use Plans.

The Arizona Strip Field Office is involved in a planning process that should result in a new RMP going into effect within the next few years. Ecological restoration was identified as one of the scoping issues for this planning process that is subject to public involvement and NEPA analysis. The outcome of this process would be new or modified management decisions that would supersede the current decisions. The scope of this EA is intended to cover conformance not only with the current decisions but also these future decisions. To accomplish this conformance determination after the new RMP goes into effect, BLM officials would review each proposed annual herbicide treatment project covered under this EA and modify it, as necessary, to ensure that it fully conforms to the new decisions.

II. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

Proposed Action. Treat up to 34 thousand six hundred eighty five acres of Wyoming big sagebrush detailed below. The timetable for treatment could start as early as fall of 2005 and/or could stretch into subsequent years, depending on funding and workload capabilities. Past experience has indicated an ability to complete five to ten thousand acres per year. It is anticipated that this approximate level would continue but could be higher or lower.

At the anticipated level, actual application time for aircraft would be approximately two to five days per year.

<u>Treatment</u>	<u>Acres</u>
Chemical: tebuthiuron	
Aerial	34685

Table 1 shows the allotments, proposed chemical treatment (including rates of application), and approximate acreages.

Table 1.

Allotment	Treatment/Rate	Application Method	Acres
Chatterly	Chemical: tebuthiuron .4lb/a	Aerial	429
Muggins Flat	Chemical: tebuthiuron .4lb/a	Aerial	2004
Pratt Tank	Chemical: tebuthiuron .4lb/a	Aerial	2270
Rock Canyon Tank	Chemical: tebuthiuron .4lb/a	Aerial	1810
Fuller road	Chemical: tebuthiuron .5lb/a	Aerial	2423
Franks Reservoir	Chemical: tebuthiuron .5lb/a	Aerial	369
Coyote	Chemical: tebuthiuron .5lb/a	Aerial	1000
Mainstreet	Chemical: tebuthiuron .4lb/a	Aerial	17300
Whiterock-soapstone	Chemical: tebuthiuron .4lb/a	Aerial	1300
Wolfhole Canyon Spring	Chemical: tebuthiuron .4lb/a	Aerial	960
Clay Spring	Chemical: tebuthiuron .5lb/a	Aerial	1300
Blake Pond	Chemical: tebuthiuron .5lb/a	Aerial	3520

The proposed treatment areas would include portions of T. 39, 40N., Rs. 1, 2, 3W., & T. 41,42 N., Rs 1, 2, 3, 4E., T35,36,38,39,40,41N., Rs 9,10,11,12,13W..(refer to map) These treatments would be paid for by BLM and permittee.

A pellet form of the herbicide tebuthiuron, which is trade named Spike 20P would be used for the proposed vegetation treatments. Spike 20P pellets are composed of 20 percent tebuthiuron--the active ingredient--and 80 percent inert ingredients, including clay which acts as a surfactant. Spike pellets are applied to the soil surface where the tebuthiuron is subsequently water activated in the soil and absorbed by the roots of a plant. Tebuthiuron is then translocated within the plant, mostly in the xylem, to the leaves where it inhibits photosynthesis. The spike pellets would be applied using a fixed-wing aircraft, equipped to precisely dispense the spike pellets at a rate of .4 lb. and .5lb of active ingredient per acre.

Objectives are: (1) decrease sagebrush composition from 50 to 75 percent to approximately 10 percent; and (2) by releasing associated vegetation from competition with sagebrush, increase the composition of perennial grasses to 60 to 75 percent, increase forbs to 1 to 10 percent, and maintain shrubs between 10 to 30 percent. After sagebrush reduction, herbaceous vegetation would propagate through plant tillering or below ground vegetative reproduction, sprouting and also the native seed source which already exists, precluding the need for reseeding.

This proposal is consistent with the Arizona Record of Decision for vegetation treatment on BLM lands dated July 23, 1991, and meets the Purpose and Need set forth in the Vegetation Treatment on BLM Lands in Thirteen Western States Final EIS (FEIS) of May 1991. The statutes, policy and planning criteria for the decision are set forth in the FEIS and Record of Decision

Management treatments and project design features relating to vegetation treatment activities are presented in the FEIS pages 1-33 to 1-35. All mitigation measures adopted in the ROD are incorporated as additional project design features. In addition, site specific project design would include: defer livestock grazing for two years during the growing season. Also, cliffrose patches would be identified and avoided.

No Action Alternative. This alternative would be to continue managing the vegetation as it currently exists. Sagebrush dominated plant communities tend to be very stable and persistent. West et al., Robertson, Sanders and Voth, and Anderson and Holte concluded that high density big sagebrush stands can endure for very long periods of time.² So no action would keep these stable states in high sagebrush plant composition without change to more favorable plant composition for long periods of time.

^aGarth Baxter, Pesticide Specialist, Intermountain Region, Forest Service, "Management of the Sagebrush Grass Ecosystem," 29 October 1993.

²N.E. West, F.D. Provenza, P.S. Johnson, and M.K. Owens, "Vegetation change after 13 years of livestock grazing exclusion on sagebrush semidesert in central Utah," Journal of Range Management 37 (May 1984):262-264; J.H. Robertson, "Changes on a grass-shrub range in Nevada ungrazed for 30 years," Journal of Range Management 24 (September 1971):397-400; K.D. Sanders and A.A.Voth, "Ecological changes of grazed and ungrazed plant communities," (Managing Intermountain rangelands--improvement of range and wildlife habitats, USDA, Forest Service General Technical Report INT-157, 1983):176-179; J.E. Anderson and K.E. Holte, "Vegetation development over 25 years without grazing on sagebrush dominated rangeland in southeastern Idaho," Journal of Range Management 34 (January 1981):25-29.

Alternatives considered but not analyzed. Prescribed burning would provide similar results to that of herbicide usage. However because of the presence of cheat grass in these areas burning alone only propagates annual cheat grass monocultures. Therefore, any future monocultures of cheat grass would create more hazardous fuel conditions than the present existing conditions. This would limit the potential to achieve satisfactory results using prescribed burning in relation to reducing the hazardous fuels in the

treatment area. Also, fire would cause a temporary loss of grass and litter cover thus exposing the soil to erosion. Prescribed burning is best used when follow up seeding is planned, which is not the case with this proposal. Smoke release into a nearby national park from a prescribed burn could also be a concern.

The alternatives for use of manual, mechanical, and biological methods have been analyzed in the Vegetation Treatment on BLM Lands FEIS and considered in the ROD. Further discussion in this EA is unnecessary since site specific conclusions and impacts would be essentially the same. The FEIS and ROD are available for public review at any BLM office in Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, North Dakota, Oklahoma, eastern Oregon, South Dakota, Utah, Washington, or Wyoming.

III. AFFECTED ENVIRONMENT

The Arizona Strip District is located in the northwest portion of Arizona, and the proposed treatment areas are approximately 10 miles south, southeast and 15 to 45 miles east of the town of Fredonia, Arizona. The western portions of the proposed treatment area are found 45-50 miles south, and southeast of St. George, Utah. Topography is open, semiarid range with sloping, rolling, or flat terrain. Elevation ranges from 4700 to 5500 feet, temperatures average 30 degrees in the winter and 90 degrees in the summer, and precipitation averages 11 to 12 inches annually. A general description of the affected environment may be found in the FEIS.

The following critical elements of the human environment are not present or are not affected by the proposal in this EA:

- Air Quality
- Areas of Critical Environmental Concern
- Cultural Resources
- Farm Lands (prime or unique)
- Flood plains
- Native American Religious Concerns
- Environmental Justice
- Wastes (hazardous or solid)
- Wetlands/Riparian Zones
- Wild and Scenic Rivers
- Wilderness

Resources Brought Forward for Analysis The following resources could possibly be affected by the proposed action.

Water Quality (drinking/ground) Surface water resources at the proposed treatment areas consist of stock ponds and intermittent surface flows which occur after precipitation events. These are suitable for livestock and wildlife use, but unsuitable for human consumption. Ground water is 600 plus feet deep.

Watershed. Soil parent material is alluvium from either limestone or sandstone. Depth class ranges from shallow to very deep and erosion potential ranges from moderate to critical. Sediment is produced at the proposed treatment areas on watersheds dominated by big sagebrush and in drainages devoid of ground cover.

Vegetation. Vegetative composition at the proposed treatment areas is a sagebrush-grass community. Wyoming big sagebrush is the main constituent of the shrub component--with snakeweed, fourwing saltbush, Mormon tea, and cliffrose as lesser constituents. The latter three are palatable to both wild and domestic ungulates. Perennial grasses include blue grama, galleta, Indian ricegrass, needlegrasses and squirreltail. The forb component is rather limited, composed mainly of desert globemallow. Current composition is 50 to 75 percent shrubs and 25 to 50 percent grasses.

Wildlife. Mammals typical of the area include mule deer, pronghorn antelope, coyote, jackrabbit, ground squirrel, and various rodents. Common birds include crows, ravens, and red-tailed hawks, with possible occasional “flyovers” by protected species such as condors, eagles, falcons, etc. Reptiles are mostly various species of small lizards (refer to the Kanab Creek Habitat Management Plan for a comprehensive list of wildlife species).

Special Status Species. An experimental population of the endangered California condor was reintroduced on the Arizona Strip in 1996. The primary release site for this population of condors is located atop the Vermilion Cliffs on the Paria Plateau. Currently (May 2004), there are 51 known condors in Arizona. Condors have been thought to spend the majority of their time within a few miles of the Vermilion Cliffs release site. However, recent telemetry data indicates they may travel hundreds of miles. Condors released on the Strip have on rare occasions flown to parts of Arizona, Utah, Wyoming, Colorado, and California, however, they typically return after short periods.

No other listed, proposed, candidate, or special status species are known from the area of the proposed action.

Visual Resources. The objective of Class II is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

The objective of Class III is to partially retain the existing character of the landscape. The level of activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape. Class III allows moderate change to the landscape which may attract attention, but should not dominate the view of the casual observer. The proposed treatment sites would appear as a mosaic of gray green sagebrush, green or gold grasses, and brown and gray soil exposures.

The objective of Class IV is to provide for management activities that require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. Every attempt should be made, however, to minimize the impact of these activities through careful location, minimal disturbance and repeating the basic elements. The proposed treatment sites appear as a mosaic of gray green sagebrush, green or gold grasses, and brown and gray soil exposures.

Table: 2

Allotment	VRM Classes
Blake Pond	IV
Chatterly	IV
Clay Spring	IV
Coyote	II
Franks Reservoir	IV
Fuller road	IV
Mainstreet	II, III, IV
Muggins Flat	III, IV
Pratt Tank	III, IV
Rock Canyon Tank	IV
Whiterock-soapstone	IV
Wolfhole Canyon Spring	II, IV

Recreation: Primary activities that occur in the area are hunting and back country touring (sightseeing by vehicle). Off-highway vehicle travel in the area is limited to existing roads and trails.

These Allotments are considered to have recreation values for their geology, scenic view sheds, and remoteness. General recreation activities might include: Sight seeing, horseback riding, hiking, camping, hunting, rock collecting, photography, bird watching and nature study. The Recreation Opportunity Classifications for each allotment are shown in table: 3

Table: 3

Allotment	Recreation Opportunity Spectrum Classes
Blake Pond	SPNM, SPM, RN
Chatterly	SPM, RN
Clay Spring	SPM
Coyote	SPNM, SPM, RN
Franks Reservoir	SPNM, SPM, RN
Fuller road	SPNM, SPM, RN
Mainstreet	SPNM, SPM, RN
Muggins Flat	SPNM, SPM, RN
Pratt Tank	SPM, RN
Rock Canyon Tank	SPM
Whiterock-soapstone	SPNM, SPM, RN
Wolfhole Canyon Spring	SPM, RN

Recreation Opportunity Spectrum Classes

Primitive: P

Semi-Primitive Non-Motorized: SPNM

Semi-Primitive Motorized: SPM

Roaded Natural: RN

Rural: R

Urban: U

IV. ENVIRONMENTAL CONSEQUENCES

The actions described in Section II of this assessment which could cause environmental effects are presented in Chapter 3 and summarized in Table 1-9 (Alternative 1) of the FEIS. Analysis discussion in that EIS have no impacts of importance upon the following resources; climate, topography, minerals, utilities, communication sites and energy use.

No effects have been identified which exceeds those addressed in the FEIS and the proposal referenced in Section II of this assessment. The following are effects of importance based upon site specific analysis of the proposal.

Impacts of the Proposed Action. The analysis below is to determine the extent of environment impacts associated with the proposed action.

Water Quality (drinking/ground). The proposed vegetation treatment is not anticipated to substantially increase current levels of contaminants in surface waters. Infrequent, high-intensity rain storms would be the most important potential factor in transport of tebuthiuron pellets into surface waters. However, a portion of the tebuthiuron would be dispersed into the soil, in place, when saturated with water.

In addition, tebuthiuron is applied at a low concentration of .4 and .5 pound of active ingredient per acre and, combined with the large quantity of water produced during intensive rain storms, would dilute substantially in concentration if mixed with surface waters. Furthermore, one hundred foot buffers would be established around surface waters such as stock ponds to reduce the possibility of tebuthiuron getting into the water. The closest riparian habitat, Kanab Creek, is 5 miles away, and would likely be unaffected if high-intensity storms caused some movement of tebuthiuron.

Leaching and a shallow water table are the two main factors which could influence movement of tebuthiuron into ground water. Tebuthiuron is a relatively persistent herbicide with an average half-life in soil of one year, a susceptibility factor in leaching. Nevertheless, given the water table depth of 600 feet at the proposed tebuthiuron application sites, it is improbable tebuthiuron could leach that deep into ground water. In addition, tebuthiuron is bound tightly to clay particles, and soils contain about 30 percent clay. This would preclude leaching of most of the tebuthiuron.

Watershed. Tebuthiuron treatments would likely have insignificant effects on soil erosion, since existing litter would remain in place on the soil surface; and achieving the goal of the treatment: to reduce sagebrush and increase herbaceous vegetation, would probably reduce current levels of soil erosion and resultant sediment production.

Vegetation. Changes to the plant composition would result from treatment. The present plant composition is 50 to 75 percent shrubs and 25 to 50 percent grasses. Within two to three years after treatment plant composition should range from 10 to 30 percent shrubs, 60 to 75 percent grasses, and 1 to 5 percent forbs.

Tebuthiuron when applied at the rate of .4 lb. of active ingredient per acre is quite species specific. An 80-90 percent sagebrush and tree kill is expected. Cliffrose is also susceptible, though it's killed at a lower rate than sagebrush. Patches of cliffrose would be avoided during treatment, precluding most of the impact to this species. The majority of snakeweed, fourwing saltbush, and Mormon tea should survive; and grasses and forbs should flourish after the first growing season following application.

After treatment plants produce tender growth, which animals tend to relish. To mitigate potential harm to plants, livestock grazing would be deferred during the growing season for two years. However, grazing by jackrabbits cannot be controlled and may affect plants early on.

Wildlife. Sagebrush treatment may displace some wildlife species. Shrub nesting birds could be displaced to nontreatment areas, though dead sagebrush would be left standing after treatment and could serve as nesting sites. Most common birds which inhabit the area are not shrub nesters. Mule deer may feed on sagebrush if other palatable shrubs are not available, but prefer more palatable shrubs such as cliffrose and fourwing saltbush. Some mule deer may possibly be displaced to nontreatment areas. Antelope, coyotes, rabbits, rodents, reptiles, and protected species should largely be unaffected. One study showed the only effect of herbicidal treatment on rodent populations was a change in their diet preference. Availability of more grasses was the only element responsible for the diet change. Also, the ecotone or edge effect and increased vegetation diversity subsequently created by sagebrush treatments is known to benefit wildlife.

Risks from exposure to tebuthiuron have been assessed for the American kestrel and pronghorn antelope, two of the wildlife species which inhabit the Arizona Strip District. LD₅₀ is the criterion used to assess risk to wildlife and is defined as "the dosage of toxicant, expressed in milligrams of toxicant per kilogram

of animal body weight, required to kill 50 percent of the animals in a test population when given orally." For a typical rangeland application of tebuthiuron, the associated risk to the American kestrel is .3% of the LD₅₀ and the risk to pronghorn antelope is .09% of the LD₅₀. These are considered negligible risks under Environmental Protection Agency guidelines.^c

Special Status Species. Because condors can travel long distances, they could be found most anywhere on the Arizona Strip, including the area of the proposed action. The release site at the Vermilion Cliffs is characterized by rugged sandstone cliffs and includes the necessary remoteness, ridges, ledges, and caves favored by condors. In contrast, the area of the proposed treatment is characterized by rolling hills and flat lands with dense stands of sagebrush. The treatment area lacks features necessary for roosting or nesting activity. If condors were to use the area, it would most likely be for foraging. California condors are opportunistic scavengers, preferring carcasses of large mammals such as deer, elk, bighorn sheep, range cattle, and horses. Most California condor foraging occurs in open terrain.

The proposed action is to use the herbicide tebuthiuron to kill sagebrush and trees as a means of reducing hazardous fuels build up and increasing vegetative vigor. Tebuthiuron is applied in pellet form at predetermined application rates from a fixed-wing aircraft. The nature of herbicide application is such that crop dusting aircraft are used at extremely low altitudes. The potential exists for condors to be disturbed by aircraft. In the worst case, condors may collide with aircraft. However, because of the specific, targeted nature of herbicide applications and seedings, implementation of proactive conservation measures, and the ability to avoid condors during these flights, the potential for adverse effect is considered very low.

California condors may also be indirectly affected by ingestion of materials or waste products associated with the herbicide or its residues. Effects of ingestion may not be immediately harmful, but long term exposure to such materials may ultimately lead to reduced fitness, illness, or mortality. While condors may pick up and ingest foreign objects, they are typically attracted to shiny objects such as metal. The clay-based Spike pellets are non-reflective and are small enough to be essentially undetectable to humans from altitudes of greater than 50 feet. A greater risk would be associated with condors feeding on carcasses of dead animals that had ingested the herbicide pellets. For a typical rangeland application of tebuthiuron, the associated risk to the American kestrel is .3% of the LD₅₀ and the risk to pronghorn antelope is .09% of the LD₅₀. These are considered negligible risks under Environmental Protection Agency guidelines. As a result, the risk to condors is considered to be insignificant and discountable.

BLM has determined that implementation of the proposed action may affect but is not likely to adversely affect the experimental non-essential population of California condors on the Arizona Strip.

Visual Resources. A slight to moderate contrast in the color and texture of the vegetation would be created by the treatments. Gray green, grainy textured sagebrush would transition to grayish hues. Green or gold, fibrous textured grasses would increase and brown and gray soil exposures would diminish. In 5 to 10 years recurrence of some sage would serve to blend or transition the contrast created between the treated and untreated areas. Feathering of edges would be used where possible to reduce straight line affects and mosaic treatment lines overall.

Recreation: Hunting and sightseeing opportunities in the proposed treatment areas are limited and probably would be unaffected.

^cU.S. Department of the Interior, Bureau of Land Management, Vegetation Treatment on BLM Lands in Thirteen Western States, Environmental Impact Statement, (May 1991): Appendix E7-1 to E8-13.

Risks to the public from the use of tebuthiuron in rangeland treatments were delineated through animal testing and herbicide exposure analysis. Animal species having similar metabolism and organ systems to that of humans were used to determine the dose levels of tebuthiuron which produced no observed chronic, subchronic, or reproductive/developmental toxicity. Also, hypothetical herbicide treatment situations were analyzed to determine herbicide doses members of the public could realistically be exposed to through skin contact and ingestion. Based on this, the tebuthiuron dosage at which no observed systemic toxicity or reproductive effects occurs in test animals is more than 100 times greater than the representative dosage a member of the public might be exposed to on rangelands treated with tebuthiuron. In addition, available evidence indicates that tebuthiuron is non-carcinogenic and nonmutagenic.^d

No Action Alternative The no action alternative assumes that management of resources and uses on public lands in the treatment areas area would continue under existing situations. Sagebrush and invading pinon and juniper trees would continue to dominate the said areas. Over time species diversity would continue to decline and eventually become a site driven by woody species with little to no herbaceous under story. None of the environmental impacts associated with the proposed action would occur under this alternative. Additionally, none of the anticipated benefits of the proposed action would be realized. Other impacted and sensitive resources would not receive adequate levels of management attention.

It is often assumed that the no action alternative has no consequential impacts. However, in the case of resource management in the proposed treatment areas the following would be considered impacts from the no action alternative. The existing stands of sagebrush would continue to increase while under story species decreases. As these vegetation communities become monotypic in composition and structure, species diversity is lost. When the symbiotic relationship between flora and fauna is starved, diversity is lost, soils become less productive, watersheds non-functional, and water quality degraded, which would ultimately result in long-term negative impacts to the area.

Water Quality (drinking/ground). The alternative would not have substantial impact on water quality. However, some adverse impacts would occur if no action is taken. Some silt loading would occur to ephemeral streams and wash runoff. Conditions would continue to be regulated by storm events and overland water flow from these events. Short term water quality would not be affected. However, overall long term water quality could be negatively impacted if conditions do not change.

Watershed. With no chemical methods used the potential to affect the soils and watershed becomes problematic. With chemical methods not employed, more prescribed burning and mechanical treatments would be utilized than with the other alternatives. Therefore the treatment methods occurring are greater than under the other alternatives. Soils would be more susceptible to erosion after prescribed burning and mechanical methods. During the initial regrowth of woody and herbaceous plants some soil would leave the site due to lack of plant cover. Because no herbicide would be used the impacts associated with herbicide use would not apply.

Vegetation. With no use of herbicide, chemical control of some target species would not be possible because of lack of suitable substitute treatments. Vegetation treatment on open rangelands would have to be replaced by manual or mechanical methods to the extent possible or not done at all. The latter option would compromise maintenance methods of existing treatment areas as well as impose species diversity loss due to vegetative communities becoming monotypic in nature.

^d Ibid., Appendix E3-1 to E5-29.

Wildlife. Important species that would be affected (mule deer and pronghorn) if No Action allowed existing conditions to continue – would be continued encroachment of shrubs and woodlands, high intensity wildfire in long term.

Special Status Species. The alternative would have no effect on special status species.

Visual Resources. The proposed treatments are inside areas designated Visual Resource Management Class II, III, and IV. The long term visual resource would continue to degrade as shrubs and trees age become decadent and encroach into open space. Visual sight distance is decreased as shrubs and trees encroach into new areas. Visual sight distance is further decreased as pinion and juniper continue to become more dense. Shrubs are then out competed and the resource left is with low tone colors, no undulating horizon, low distance visibility and few broken textures.

Recreation. Long term increase in pronghorn and mule deer leads to increased hunting opportunity. Degraded habitats could adversely affect some huntable/viewable wildlife.

Cumulative Effects. The Council on Environmental Quality regulations defines cumulative impacts or effects as: “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.”

Many small vegetative augmentation projects, cumulatively, could alter the composition of 615,000 acres of Big Sagebrush dominated ecological sites on the Arizona Strip District. This would constitute change from predominately sagebrush with an understory of various perennial grasses to predominately native perennial grasses. Optimum composition for most sagebrush grass communities on the Arizona Strip District is approximately 25 percent shrubs and 75 percent grasses, a situation which mimics pre European settlement conditions. The sum of tebuthiuron treatments is approximately 88,000 acres or 14 percent of sagebrush dominated ecological sites, and is not considered significant. For reasonable foreseeable treatments 50,000 total acres over the next five years. For an additional discussion on cumulative impacts within the District see the Arizona Strip District Resource Management Plan and Environmental Impact Statement Page III-34.

Recommended Mitigating or Enhancing Measures.

Standards and guidelines in BLM Handbook Section 9011 (Pesticide Storage, Transportation, Spills, and Disposal) Section II would be met. This defines standards for storage facilities, posting and handling, accountability, and transportation. It covers spill prevention, planning, cleanup, and container disposal requirements.

Feathering would be used to reduce straight lines and produce a mosaic of edges.

Areas of cliffrose would be flagged and avoided.

Livestock grazing would be deferred for two years during the growing season.

One hundred foot buffers would be established around surface water to reduce the possibility of tebuthiuron getting into the water.

Condor mitigation measures would be followed (Appendix 1.)

Monitoring. Inspection and monitoring of the proposed treatment areas would be done annually. In addition, permanent trend transects exist within the proposed treatment area at the Coyote Allotment. Plant species frequency and composition would be monitored at these transects.

V. CONSULTATION AND COORDINATION

This document underwent internal review (Arizona Strip Field Office). The BLM specialists conducting this review were:

Gloria Benson, Native American Coordinator
Tom Folks, Recreation
Laurie Ford, Lands/Realty/Minerals
Michael Herder, Wildlife
John Herron, Cultural
Lee Hughes, Plants
Linda Price, S&G
Bob Sandberg, Range
Richard Spotts, Environmental Coordinator
Ron Wadsworth, Supervisory Law Enforcement

The Notice of Availability for this EA was sent to those on the ASFO NEPA mailing list during the public comment period. This document was posted on the BLM ASFO web site. The NOA letter was sent to all grazing permittees with allotments covered under the proposed action.

Signature of P & E C

FINDING OF NO SIGNIFICANT IMPACT

Based on the analysis of potential environmental impacts contained in this environmental assessment, I have determined that the proposed action would not have a significant effect on the human environment and therefore an environmental impact statement will not be prepared.

Field Manager, Arizona Strip Field Office

Date

DECISION RECORD

Buckskin/Shivwits Fuels Reduction and Ecological Restoration EA #: AZ-110-2005-0027

DECISION: It is my decision to authorize the proposed action described in EA #: AZ-110-2005-0027, a sagebrush/tree fuels reduction treatment on approximately 34685 acres of public rangeland. The intent of this treatment is to improve ecological condition by decreasing the current sagebrush composition of 50 to 75 percent to approximately 10 percent. By releasing associated vegetation from competition with sagebrush, the objectives are to increase the composition of perennial grasses to 60 to 75 percent, increase forbs to 1 to 5 percent, and maintain shrubs between 10 to 30 percent. Tebuthiuron, which is trade named Spike 20P, will be used to reduce sagebrush and tree composition.

Stipulations: Cliffrose, a valuable browse species which is susceptible to Spike 20P, will be flagged and avoided during treatment

The area will be deferred from livestock grazing for two years following the treatment.

The area will be grazed in a manner that will meet the yearly growth requirements of the forage species to maintain their health, vigor, and to allow adequate seed production. Utilization levels would ensure that adequate vegetative cover is left to protect the soil from accelerated erosion, excess runoff.

One hundred foot buffers will be established around surface water to reduce the possibility of tebuthiuron getting into the water

Standards and guidelines in BLM Handbook Section 9011 (Pesticide storage, Transportation, Spills, and Disposal) Section II will be met. This defines standards for storage facilities, and posting and handling, accountability and transportation. It covers spill prevention, planning, cleanup and container disposal requirements.

Monitoring: Follow-up monitoring will be conducted to determine if the desired results were achieved.

RATIONALE: The decision is in conformance with the Arizona Strip District Resource Management Plan, and also conforms to the Arizona Standards for Rangeland Health. The decision also meets our legal mandates in the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1700 et seq.) and the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901 et seq.).

It was deemed that prime or unique farmlands, flood plains, Environmental Justice, Native American religious concerns, threatened or endangered species, wastes (hazardous or solid), wetland riparian zones, wild and scenic rivers, Areas of Critical Environmental Concern, migratory birds, cultural resources, and wilderness will be unaffected or are not present in the area where the proposed action will occur.

Field Manager

Date

Appendix 1. Conservation Measures for California Condors to be Applied to This Project.

CC1B. Immediately prior to the start of a permitted project, BLM will contact personnel monitoring California condor locations and movement on the Arizona Strip to determine the locations and status of condors in or near the project area.

CC2B. Where California condors visit a worksite while activities are underway, the on-site supervisor will notify the BLM wildlife team lead or condor biologist. Project workers and supervisors will be instructed to avoid interaction with condors. Project activities will be modified, relocated, or delayed if those activities adverse affects on condors. Operations will cease until the bird leaves on its own or until techniques are employed by permitted personnel which results in the individual condor leaving the area.

CC7B. Aircraft use, especially low level flights along the rim of the Vermilion Cliffs and flights near the condor release site at Vermilion Cliffs, will be minimized to the greatest extent possible in order to avoid disturbance to condors which may be present. Known active nest sites will be avoided.

CC8B. The BLM condor biologist or Wildlife Program Lead will contact the Peregrine Fund, as appropriate, immediately before operations involving aviation begin to check on possible locations of condors in the subject area.

CC9B. All BLM-authorized aviation personnel will be provided literature and/or instructed regarding condor concerns prior to conducting aerial operations.

CC10B. Aircraft will maintain and maximize safe flying separation distances from, in order to avoid, flying condors. Aircraft will also keep a minimum of 0.25 miles away from condors located on the ground.

CC11B. BLM will implement the protective measures for California condors that are contained in the March 2004 "Recommended Protection Measures for Pesticide Applications in The Southwest Region of the U.S. Fish and Wildlife Service."